

**ABSTRACT OF THE DISCLOSURE**

A method for controlling a photolithography process includes forming a first layer on a selected wafer. A first overlay error associated with the first layer is measured. At least one parameter in an operating recipe for performing a photolithography process on a second layer formed on the first wafer is determined based on at least the first overlay error measurement. A processing line includes a photolithography stepper, and overlay metrology tool, and a controller. The photolithography stepper is configured to process wafers in accordance with an operating recipe. The overlay metrology tool is configured to measure overlay errors associated with the processing of the wafers in the photolithography stepper.

10 The controller is configured to receive a first overlay error measurement associated with the formation of a first layer on a selected wafer and determine at least one parameter in the operating recipe for performing a photolithography process on a second layer formed on the selected wafer based on at least the first overlay error measurement.